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| 10/737,338 | 12/16/2003 | Patrick Henry Corcoran | FA1084 US NA | 6146 |
| 23906 | 7590 | 11/02/2005 | EXAMINER | |
| E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805 | | | BISSETT, MELANIE D | |
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| | | | 1711 | |

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/737,338

Applicant(s)

CORCORAN ET AL.

Examiner

Melanie D. Bissett

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-26 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The rejections set forth in the previous Office action have been maintained.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-4, 11-12, 16-17, 19-20, and 24-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Primeaux, II et al. (US 6,013,755).
4. From a prior Office action:

Primeaux '755 discloses coatings comprising an aspartic ester, polyoxyalkyleneamines, and isocyanates (abstract). The aspartic ester compounds fit the applicant's formula, where aliphatic groups including diaminodicyclohexyl methane are combined with maleic or fumaric acid esters including dialkyl maleates (col. 2 line 38-col. 3 line 15). Isocyanates comprise aliphatic or aromatic isocyanates including hexamethylene diisocyanate, trimerized hexamethylene diisocyanate, and isophorone diisocyanate (col. 4 lines 15-40). The reference teaches coating the two-part compositions after mixing to automotive substrates (col. 9 lines 36-58; col. 10 lines 3-12).

Additives, preferably a mixture of three components, are included with the coating compositions (col. 7 lines 49-66). The three components include sterically hindered amines (col. 8 lines 3-12), UV absorbers (col. 8 lines 13-20), and disubstituted phenol antioxidants (col. 8 lines 21-29). A most preferred additive composition contains 40% by weight UV stabilizer, 40% by weight UV absorber, and 20% by weight antioxidant (col. 7 line 58-col. 8 line 2). Since the additive is used in an amount of up to 5% by weight of the polyetheramine (col. 8 lines 43-49) and because the examples show the use of about 26% by weight of the polyetheramine components, it is the examiner's position that one skilled in the art would envision the use of about 0.4% by weight of the UV stabilizer and UV absorber compounds and about 0.2% by weight of the antioxidant compound.

5. Claims 1-7, 9-12, 16-17, 19-20, and 24-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Primeaux, II et al. (US 6,399,736). This reference can be found on the applicant's Form PTO-1449.
6. From a prior Office action:

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Primeaux '736 discloses coatings comprising an aspartic ester, polyoxyalkyleneamines, and isocyanates (abstract). The aspartic ester compounds fit the applicant's formula, where aliphatic groups including diaminodicyclohexyl methane are combined with maleic or fumaric acid esters including dialkyl maleates (col. 2 line 64-col. 3 line 41). Isocyanates comprise aliphatic or aromatic isocyanates including hexamethylene diisocyanate, trimerized hexamethylene diisocyanate, and isophorone diisocyanate (col. 3 lines 63; col. 8 lines 6-16). The reference teaches coating the two-part compositions after mixing to automotive substrates (col. 13 lines 22-43; lines 55-64).

Additives, preferably a mixture of three components, are included with the coating compositions (col. 11 lines 35-55). The three components include sterically hindered amines (col. 11 lines 56-65), UV absorbers (col. 11 line 66-col. 12 line 6), and disubstituted phenol antioxidants (col. 12 lines 7-14). A most preferred additive composition contains 40% by weight UV stabilizer, 40% by weight UV absorber, and 20% by weight antioxidant. Since the additive is used in an amount of up to 5% by weight of the polyetheramine (col. 12 lines 28-34) and because the examples show the use of about 26% by weight of the polyetheramine components, it is the examiner's position that one skilled in the art would envision the use of about 0.4% by weight of the UV stabilizer and UV absorber compounds and about 0.2% by weight of the antioxidant compound.

Regarding the acrylic component, Primeaux '736 teaches the addition of various amounts of hydroxy-functional acrylic oligomers and polymers having molecular weights (M_n) of 800-50,000 (col. 5 line 36-col. 6 line 4). Copolymers include styrene, alkyl (meth)acrylate, (meth)acrylonitrile, and hydroxy-functional (meth)acrylate monomers. The compounds have hydroxyl group contents of 0.1-12% by weight.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
8. Claims 5-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Primeaux, II et al. '755 in view of Primeaux, II et al. '736.
9. From a prior Office action:

Primeaux '755 applies as above, failing to mention the use of acrylic components. Primeaux '736 teaches the addition of various amounts of hydroxy-functional acrylic oligomers and polymers having molecular weights (M_n) of 800-50,000 (col. 5 line 36-col. 6 line 4). Copolymers include styrene, alkyl (meth)acrylate, (meth)acrylonitrile, and hydroxy-functional (meth)acrylate monomers. The compounds have hydroxyl group contents of 0.1-12% by weight and are shown to

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enhance the elasticity of the coatings (col. 6 lines 42-51). Thus, it would have been prima facie obvious to include the acrylic components of the '736 invention into the coatings of the '755 invention to enhance the elasticity of the coatings.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Primeaux, II et al. '736 in view of Huynh-Ba.

11. From a prior Office action:

Primeaux '736 applies as above, teaching coatings with polyoxyalkyleneamines, isocyanates, and optional polyacrylic polyols but failing to teach the specified polyacrylic component. Huynh-Ba teaches coatings for automotive finishing comprising polyacrylic polyols that react with polyisocyanates to form a quick-cure coating having a dust-free, water-resistant, and sandable surface (abstract; [0015, 0074]). Preferred acrylic polymers for the invention are copolymers of styrene, isobornyl methacrylate, ethylhexyl methacrylate, and hydroxyethyl methacrylate [0024-0025]. It is the examiner's position that it would have been prima facie obvious to include the preferred polyacrylic polyols of Huynh-Ba's invention to improve the water resistance, cure time, and post-processing of the coatings.

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Primeaux, II et al. '755 or '736 in view of Zweiner et al. Zweiner et al. (US 5,126,170) can be found on the applicant's Form PTO-1449.

13. From a prior Office action:

The Primeaux references apply as above, failing to mention the use of polyester polyols in the coatings. Zweiner teaches similar coating compositions comprising polyisocyanates and polyaspartates (abstract), where additional isocyanate-reactive components may be included (col. 5 lines 2-20). The examples show small amounts of the use of polyacrylate/polyester polyol blends and of polyester polyols in the polyaspartate component of the coatings. When examples 14, 18, and 20 are compared with examples 3-5, it appears that the components with polyester polyols have shorter sand dry times. All compositions are suitable for forming coatings for automotive applications. It is the examiner's position that it would have been prima facie obvious to include any amount of polyester polyol in the coatings of the Primeaux inventions to form suitable coatings with shorter sand dry times.

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14. Claims 14 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Primeaux, II et al. '755 or '736 in view of Schmitt et al.

15. From a prior Office action:

The Primeaux references apply as above, teaching the use of isocyanate prepolymers but failing to mention the use of the specified urethane oligomer. Schmitt teaches aqueous dispersions of polyureas, where urethane oligomers made from dimethylolpropionic acid, a monohydric polyether alcohol, and a combination of diisocyanates are reacted with polyaspartates (examples). The reference teaches that the inclusion of carboxylic acid groups and terminal polyether groups serve to improve the stability of the polyureas in water (col. 7 lines 16-31; col. 8 lines 12-39; col. 8 line 66-col. 9 line 23). Thus, it is the examiner's position that it would have been prima facie obvious to use the urethane oligomers of Schmitt's invention in the coatings of Primeaux to improve the stability of the coatings in water.

16. Additionally, the Schmitt reference teaches that amines can be added to the oligomers before reaction with the aspartates to neutralize the ionic groups within the structure (col. 9 lines 53-64; col. 10 lines 14-33). Thus, it would have been prima facie obvious to include amines with the urethane oligomers to neutralize the ionic groups.

17. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of Primeaux, II et al. '755 or '736 in view of Cai et al. Cai et al. (US 5,591,807) can be found on the applicant's Form PTO-1449.

18. From a prior Office action:

The Primeaux references apply as above, teaching the use of the coatings as paints or coatings for automotive applications but failing to specify coating structures including primers, basecoats, and clearcoats. Cai teaches coating compositions comprising polyisocyanates and polaspartic esters (abstract), where the coatings are applied as pigmented basecoats and/or clearcoats on automotive substrates and cured (col. 6 lines 24-64). Multiple layers of either coating can be used, providing a pigmented primer layer and a pigmented basecoat layer. It is the examiner's position that it would have been prima facie obvious to form the claimed coating articles and perform the claimed process by conventional methods to form suitable automotive paint articles having the improved properties of the Primeaux coatings.

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19. It is the examiner's position that it would have been prima facie obvious to use the coatings of the Primeaux reference as the primers, basecoats, and clearcoats to form paint articles by conventional methods having improved appearance and gel and tack free times for each layer of the article.

20. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over either of Primeaux, II et al. '755 or '736 in view of Wolf.

21. From a prior Office action:

The Primeaux references apply as above, teaching the use of antioxidants but failing to teach the use of hydroperoxide decomposing antioxidants. Wolf teaches that secondary antioxidants, which decompose hydroperoxide, are useful during processing for improved long-term stabilization under severe thermal conditions (section 2.2). Thus, it would have been prima facie obvious to include hydroperoxide decomposers in the coatings of Primeaux in any amount necessary to improve the long-term stabilization under severe thermal conditions, since the coatings are intended for weather-resistant coatings.

Allowable Subject Matter

22. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. The following is a statement of reasons for the indication of allowable subject matter:

24. The closest prior art, Primeaux, II et al. (US 6,399,736), discloses coatings comprising an aspartic ester, polyoxyalkyleneamines, isocyanates, and light stabilizing additives. Although the reference indicates the use of polyisocyanate prepolymers, the

reference does not teach the addition of the specified oligomer of claim 15. It is the examiner's position that the use of such an oligomer in the claimed coating composition would provide a novel and unobvious step over the prior art.

Response to Arguments

25. Applicant's arguments filed 17 August 2005 have been fully considered but they are not persuasive.

26. In response to the applicant's arguments that the Primeaux '755 reference does not anticipate the claims, the examiner has pointed to the reference's teaching of each of the claimed features. Optional components of the claims are *optional*; thus, the reference need not teach those components to anticipate the claim. The reference teaches *blending* aspartic esters with a polyoxyalkyleneamine and reacting the blend component with an isocyanate component, forming the claimed two-component coating. The reference also teaches the claimed weathering additives, and the examiner has pointed to the passages of the reference that suggest the claimed amounts.

27. Regarding the Primeaux '736 reference, the examiner has pointed to the reference's teaching of each of the claimed features. The claims do not exclude copolymers the copolymer oligomers and polymers of the reference. The reference teaches the claimed polymers and oligomers made from the claimed acrylic monomers and having hydroxyl functional groups. As pointed out above, the reference also teaches the claimed molecular weights, since the ranges overlap with the claimed ranges. Also, as pointed out above, the reference teaches the claimed hydroxyl

functional groups and teaches various amounts of such hydroxyl groups, thus anticipating the claimed features.

28. Regarding the 103 rejections, the applicant argues that the secondary reference teaches away from the applicant's invention. The examiner has demonstrated that it would have been prima facie obvious to combine the secondary references with the primary references for the reasons/motivations given. The combination would result in the claimed combination of components or features. The references are not combined with the applicant's invention; thus, the affects of the teachings on the applicant's invention are irrelevant.

29. In response to the applicant's statement of common ownership of the Huynh-Ba reference, it is noted that the reference was published before the filing date of the present application. The reference is available under 102(a) and thus cannot be overcome by a statement of common ownership.

30. Regarding the Schmitt reference, the reference teaches including the claimed oligomers in composition in the claimed amounts (examples). It has also been pointed out where the reference teaches adding amines to the urethane oligomers.

Conclusion

31. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (571) 272-1068. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melanie D. Bissett

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Primary Examiner
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mdb